

### REQUEST FOR RECONSIDERATION

Claims 7-8, 10-27 remain active in this application.

The claimed invention is directed to a process for the sequential production of a library of N different solids comprising heterogeneous catalysts.

Applicants wish to thank examiner Patel and supervisory patent examiner Mayes for the helpful and courteous discussion held with their U.S. representative on December 22, 2010. At that time, applicants' U.S. representative noted the claim limitation appearing in the last four lines of claim 7 wherein "the total stream...remains constant..." and how the cited art failed to suggest such a process. The following is intended to expand upon the discussion with the examiners.

Combinatorial library production allows for rapid generation of compositions to be screened for activity. Rapid and efficient efforts to prepare libraries of heterogeneous catalysts for screening are sought.

The claimed invention addresses this problem by providing a process for the sequential production of a library of N different solids, comprising heterogeneous catalysts, comprising a) preparing at least two different sprayable compositions, b) continuously metering a predefined ratio of the at least two different sprayable compositions into a mixing apparatus, forming a mixture, c) continuously drying to produce a dried mixture and recovering, and d) changing the ratios in step b) until N different solids are obtained, wherein the ratio in b) and d) is set and changed by **changing or adapting the flow velocities of the different solutions**, emulsions and/or dispersions during the metering into the mixing apparatus and **the total stream of the individual solutions**, emulsions and/or dispersions **remains constant** during the metering in the mixing apparatus and to the drying. Applicants have discovered such a process to provide for efficient and rapid production of a library of N different solids. Such a process is nowhere disclosed or suggested in the cited art of record.

The rejection of claims 7, 8 and 10-27 under 35 U.S.C. §103(a) over Ushikubo et al. in view of Lugmair et al. U.S. 2004/0110636, in view of Sun et al. U.S. 6,689,613 in further view of Schunk et al. U.S. 2001/0039330 is respectfully traversed.

None of the cited art of record discloses or suggests a process in which the **total stream** of individual solutions, emulsions and/or dispersions **remains constant** when changing the ratio in step b).

Ushikubo et al. disclosed a process for preparing a catalyst by spray drying a solution or slurry containing Mo, V and Te (see abstract). There is no disclosure of preparing a library of different solids. A constant total stream is irrelevant to this disclosure since multiple catalysts are not being prepared.

Lugmair et al. discloses a method for combinatorial approach in which a catalyst is subject to different **mechanical treatments**, providing an array of materials for catalysis research (see abstract). There is no disclosure of preparing different solids having different compositional ratios. A constant total stream is irrelevant to this disclosure since multiple catalysts are not being prepared.

Sun et al. discloses a method of **screening a combinatorial library** by reacting with a carbon source and screening the products for the production of carbon fibrils (see abstract and example 1). There is no disclosure of preparing different solids having different compositional ratios.

Schunk et al. discloses a process for producing **arrays** of heterogeneous catalysts by coating channels in an array with a predetermined amount of materials to provide a predetermined composition, followed by treating with a reactive gas, and heating if necessary. (see abstract). Paragraph [0099] as been cited for disclosing continuous metering in the preparation of a heterogeneous catalyst library. However, this section merely describes **only metering** catalyst precursors from separate vessels in to the channels. The reference

fails to describe a library production method in which products are dried and recovered, but rather only describes preparation of an array in which the catalysts are formed in separate channels of the array. There is no disclosure of a total stream remaining constant.

In contrast, the claimed invention is directed to a process in which the total stream of individual components **remains constant** during the metering. The term “total stream” refers to the volume of the individual solutions being metered into the mixing apparatus.

Applicants respectfully submit that the claim limitation of the total stream remaining constant is a claim limitation which is simply not disclosed or suggested in the cited art.

Page 7 of the official action acknowledges applicants’ prior argument as to the total stream being constant but assert that this is not a claim limitation. Applicants respectfully disagree with the examiner and have cited the specific language in the claim which recites this aspect of the technology. Since, contrary to the official action, the total stream being constant, is a claim limitation which is not found in the cited art, the claimed invention would not have been obvious.

During the discussion, the examiners noted the disclosure at page 4, lines 1-11 of Ushikubo et al. and the relationship between the particle size and the amount of supplied solution or slurry such that if one were to seek a uniform particle size, then a constant total stream would have been obvious. Applicants respectfully note that there is no suggestion of maintaining a uniform particle size and accordingly a constant volume of solution would not have been obvious. The examiners further speculated whether the disclosure that the conditions of spray drying may be suitably set depending upon the specification of the spray dryer, the amount of the object to be treated etc. would suggest introduction of a constant volume. Applicants respectfully note that the very discussion of the conditions being “suitably set” suggests variations in the spray drying conditions such that multiple variables are available to be adjusted and thus fails to suggest a single volume being introduced.

Further applicants strongly note that few techniques for the preparation of a library of compounds can be gleaned from a report of the preparation of a single compound.

As the cited art fails to disclose the claimed aspect of the total stream of individual solutions, emulsions and/or dispersions remaining constant, the claimed invention would not have been obvious and accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

Applicants submit that this application is now in condition for allowance and early notification of such action is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAJER & NEUSTADT, L.L.P.



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Richard L. Treanor  
Attorney of Record  
Registration No. 36,379

Customer Number  
**22850**

Tel: (703) 413-3000  
Fax: (703) 413 -2220  
(OSMMN 07/09)

Richard L. Chinn, Ph.D.  
Registration No. 34,305